

## Region 1 FY 2012 Invasive Species Control Program Proposal

**Refuge/complex name:** Guam National Wildlife Refuge

**Project title:** Brown Treesnake Eradication within 125-acre Enclosure

**Project description:**

Guam National Wildlife Refuge (Guam NWR) is located on the island of Guam, an unincorporated U.S. territory. Guam is the largest and southernmost island in the Marianas Archipelago, situated in the western Pacific Ocean. Guam NWR is comprised of three units: the Andersen Air Force Base Overlay Refuge Unit (Air Force Overlay Unit), the Navy Overlay Refuge Unit (Navy Overlay Unit), and the Ritidian Unit. The Ritidian Unit is located on the northern tip of Guam and encompasses 1,217 acres, including 385 terrestrial acres and 832 acres of submerged offshore marine habitat.

Guam's native wildlife and habitats have been greatly impacted by urban development, agriculture, and pest species. Most damaging has been the accidental introduction of the brown tree snake (BTS) (*Boiga irregularis*) in the 1950's. Since, there has been a dramatic decline in Guam's native fauna including forest birds, small mammals, and lizards. Nine of the 11 species of native forest-dwelling birds have been extirpated from Guam. The Guam NWR was established in 1993 as a consequence of the listing in 1984 of six endangered species pursuant to the Endangered Species Act (ESA). In 2004, the U.S. Fish and Wildlife Service (Service) designated critical habitat for three of these species, the Fanihi (Mariana fruit bat, *Pteropus mariannus mariannus*), Sihek (Guam Micronesian kingfisher, *Halcyon cinnamomina cinnamomina*), and Mariana crow (å'ga, *Corvus kubaryi*). The 385 terrestrial acres of the Ritidian Unit are the only designated critical habitat on Guam for these species.

In an effort to protect and restore critical habitat, Guam NWR is in the process of installing a multi-species barrier around an 125-acre (51.5 ha) area. The goal of the barrier is to create a snake, ungulate, and cat enclosure using weather resistant fencing. Once completed, pest species from within the confines of the pest barricade will be removed or controlled. This area would allow for forest regeneration and native bird repatriation. The barrier is estimated to be complete by September 2012.

A priority of the Guam NWR invasive species control program is to focus on intensive trapping and removal of adult BTS from within the enclosure for a period of at least one year. This activity will be conducted by a contract or term Biological Technician. The goals of this position are outlined in this proposal.

**Comment [BFW1]:** How is this different than the FY13 \$40K confirmed for trapping adult BTS?

**What is potential for eradication of the invasive species?**

An intensive effort will be focused on removing adult BTS from the enclosed area using known trapping, baiting and hand-removal methods. Eradication of the BTS at all growth stages is difficult to achieve, as there are presently no successful methods of trapping juvenile snakes. However, decreasing the population of the larger trappable snakes will allow for the safe release of several native bird species within the enclosure. Juvenile treesnakes are unable to consume

bird size prey. With an intensive trapping effort the successful reintroduction of native birds will be possible.

#### **Does the project support achieving the refuge purpose?**

The multi-species barrier is the most important strategy in accomplishing all 10 goals described in Guam National Wildlife Refuge Comprehensive Conservation Plan (CCP). In addition, as stated in the CCP, the U.S. Congress authorized a cooperative program to control the BTS outside of its historic range. The Brown Tree Snake Technical Working Group is charged with an integrated pest management approach that would:

- Reduce existing BTS populations over large geographic areas on Guam;
- Prevent the spread of BTS to other Pacific islands and mainland areas;
- Eradicate or contain new populations as soon as detected;
- Develop effective and environmentally sound control and/or eradication strategies and methods;
- Protect endangered species and other wildlife from BTS predation;
- Assist organizations and individuals on Guam with managing and controlling BTS populations to reduce disruptions of electrical supplies and human-snake encounters resulting in emotional trauma and bites; and
- Develop adequate information on the biology, dispersal dynamics, and control of BTS to support Federal, State, Territorial, and Commonwealth needs.

#### **Does the project support biological integrity?**

The bio technician tasked with removing BTS within the enclosure will follow known baiting and trapping methods used by the USGS Brown Treesnake Program and the Guam USDA APHIS Wildlife Services. The USGS Brown Treesnake Program research group is located in the USFWS, Guam NWR building at Ritidian Point.

**Comment [BFW2]:** Didn't really answer the question... what are the short-term and long-term benefits of removing adult BTS to trust species and wildlife?

#### **Will the project involve support from partners?**

The Guam NWR will collaborate with other agencies researching or eradicating BTS throughout Guam. These agencies include the USGS Brown Treesnake Project, Guam Division of Aquatic and Wildlife Resources, and USDA APHIS Wildlife Services.

#### **What monitoring will be used to evaluate the project?**

Monitoring will be conducted throughout the BTS removal process by following a USGS approved trapping protocol. In addition to live trap capture data night surveys will be conducted on a regular basis.

#### **Budget:**

Item	Description	Total
Contract	Contract one Bio-technician for one year term position for pest removal	\$40,000
Supplies	Trapping and monitoring supplies	\$5,000
Total:		\$45,000